

Appn. No. 09/753,591  
Amendment dated May 7, 2007  
Reply to Office Action mailed December 7, 2006

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REMARKS

Reconsideration is respectfully requested.

Claims 38 through 43 and 46 through 65 remain in this application.  
Claims 1 through 37 and 44, 45 have been cancelled. No claims have been withdrawn or added.

Paragraphs 1 through 4 of the Office Action

Claims 38 through 43 and 56 through 65 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Harris in view of Valdespino.

Claim 38 requires, in part, "wherein the housing completely encloses the air-bag". Claim 46 includes the requirement of "wherein the housing abuts against substantially an entire circumference and substantially an entire length of the air-bag when the air-bag is fully extended". Claim 47 requires in part "wherein the housing extends along and about an entire extended length of the air-bag".

It is conceded in the rejection of the Office Action that, "However, Harris does not disclose that his housing completely encloses the air bag."

It is then contended with respect to the Valdespino patent that:

Valdespino is relied upon merely for his teachings of an air bag suspension system (see Figure 6) forming a shock absorber which includes at least one air bag 46, the air bag is completely enclosed within a housing assembly 41.

And it is further asserted that:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the air bag suspension system of Jurrens et al to include an air bag enclosed completely within a housing assembly as taught by Valdespino as an effective means of sealing the air bag from the environment. By constructing the air bag to be fully enclosed within the housing

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assembly, outside dirt, debris, and other such contaminants would be prevented from damaging the air bag.

Initially, it is noted that while this portion of the rejection refers to "Jurrens et al", which is not a reference that is identified in the rejection as being a basis of the rejection. It will be assumed for the purposes of this response that the rejection was merely a typographical error and was intended to refer to the Harris patent. Also, on a more substantive matter, it is noted that nothing in the prior art that has been cited, and particularly in the Valdespino patent which is cited as teaching this feature, sets forth the alleged benefits enumerated in the rejection of the Office Action.

However, perhaps more importantly, it is submitted that one of ordinary skill in the art, considering the discussion in the Harris patent, would not be led to modify the Harris apparatus in the manner alleged to be obvious in the rejection. More specifically, Harris states in its Abstract that (emphasis added):

A vehicle suspension strut incorporating an airspring around a hydraulic shock absorber is disclosed. The unique airspring design and orientation relative to the shock absorber axis creates a side acting force which counteracts the bending torque acting on the strut during operation in a vehicle and prevents binding of the shock absorber piston. The horizontal side load is achieved using a partial restraining sleeve which circumferentially shrouds the flexible member of the airspring. The partial restraining sleeve extends less than half way around the circumference of the airspring flexible member and has a radius less than the fully inflated radius of the flexible member therby creating a restraining force on only one side of the flexible member of the airspring.

Thus, it is clear to one of ordinary skill in the art from the Abstract of Harris that the key function of the apparatus is the creation of a "side acting force", and also that the key to creating this side acting force is a "*partial restraining sleeve*" that "*extends less than half way around the circumference of the air spring flexible member*". It is submitted that this explicit discussion of the Harris patent would not lead one of ordinary skill in the art to the allegedly obvious modification of the Harris patent, and in

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fact teaches against any attempt to modify the Harris sleeve to adopt the housing of Valdespino patent, or any attempt to "completely enclose" the flexible member of Harris, as this would eliminate the "side acting force" that is the center of the Harris apparatus. Further, Harris states at col. 1, lines 40 through 64 that (emphasis added):

The object of this invention is to provide a suspension strut utilizing an airspring which generates side load compensating force.  
The force counteracts the bending torque created by the mass of the vehicle in operation and minimizes stiction in the hydraulic damper of the strut. This yields a softer ride. The airspring gives the ability to achieve variable spring rates as well as a constant vehicle height maintainable regardless of load by adjusting the internal pressure of the airspring portion of the strut. The side load compensating force is achieved by utilizing a partial restraining sleeve which restricts the radial expansion of the flexible member of the airspring around a limited portion of the circumference of the airspring. The partial restraining sleeve is positioned diametrically opposite to the line of action desired for the side load compensating force. The point of contact of the partial restraining sleeve to the flexible member is at a lesser distance from the strut axis than the unrestrained inflated radius of the flexible member of the airspring. This restraint of the flexible member on only a portion of its circumference creates a side load compensating force on the airspring portion of the strut thereby providing the ability to offset the bending torque exerted by the sprung mass of the vehicle in which the suspension strut is mounted.

It is submitted that this statement in the Harris patent that creation of the side load force is *the object* of the Harris system could only lead one of ordinary skill in the art away from the allegedly obvious modification set forth in the rejection. "Completely enclosing" the flexible member of the airspring, as it is alleged in the rejection that Valdespino teaches, would completely eliminate this primary objective of the Harris patent and its airspring. Harris includes other statements along these lines that will not be further discussed for the sake of brevity.

It is well established in the patent law that a proposed modification is not considered to be "obvious" if it renders the prior art structure

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unsuitable for its intended purpose. See MPEP §2143.01(V), where it is stated that:

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

It is submitted that any attempt to "completely enclose" the flexible member of Harris using the housing of Valdespino would eliminate the side acting force of the Harris structure (as the "side load" would be applied to all sides of the flexible member) and thus the eccentric loading of the flexible member achieved by the partial sleeve would be lost.

Indeed, it is submitted that the partial restraint--which is the primary and singular thrust of the Harris patent--could only lead one of ordinary skill in the art away from the modification of Harris that is proposed in the rejection of the Office Action.

It is therefore submitted that the cited patents, and especially the allegedly obvious combination of Harris and Valdespino set forth in the rejection of the Office Action, would not lead one skilled in the art to the applicant's invention as required by claims 38, 46 and 47. Further, claims 39, 43, 48 and 49, which depend from claim 38, claims 40 and 41, which depend from claim 39, claim 42, which depends from claim 41, claims 50, 51 and 53, which depend from claim 49, claim 52, which depends from claim 51, claims 54 and 55, which depend from claim 46, claims 56, 57 and 59, which depend from claim 55, claim 58, which depends from claim 57, claims 60 and 61, which depend from claim 41, claim 62, 63 and 65, which depend from claim 61 and claim 64, which depends from claim 63 also include the requirements discussed above and therefore are also submitted to be in condition for allowance.

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Withdrawal of the §103(a) rejection of claims 38 through 43 and 46 through 65 is therefore respectfully requested.

CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

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